

## 13.

Notes on Ectoparasites from Venezuela (Siphonaptera and Acarina).<sup>1</sup>

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(Text-figures 1 &amp; 2).

[This is one of a series of papers resulting from the 45th and 46th Expeditions of the Department of Tropical Research of the New York Zoological Society, made during 1945 and 1946 under the direction of Dr. William Beebe with headquarters at Rancho Grande in the National Park of Aragua, Venezuela. The expeditions were made possible through the generous cooperation of the National Government of Venezuela and of the Creole Petroleum Corporation.]

[The characteristics of the research area are in brief as follows: Rancho Grande is located in north central Venezuela (10° 21' N. Lat., 67° 41' W. Long.), 80 kilometers west of Caracas, at an elevation of 1,100 meters in the undisturbed montane cloud forest which covers this part of the Caribbean range of the Andes. Adjacent ecological zones include seasonal forest, savanna, thorn woodland, cactus scrub, the fresh water lake of Valencia and various marine littoral zones. The Rancho Grande area is generally subtropical, being uniformly cool and damp throughout the year because of the prevalence of the mountain cloud gap. The dry season extends from January into April. The average humidity during the expeditions, including parts of both wet and dry seasons, was 92.4%; the average temperature during the same period was 18° C.; the average annual rainfall over a 5 year period was 174 cm. The flora is marked by an abundance of mosses, ferns, and epiphytes of many kinds, as well as a few gigantic trees. For further details, see Beebe & Crane, *Zoologica*, Vol. 32, No. 5, 1947. Unless otherwise stated, the specimens discussed in the present paper were taken in the montane cloud forest zone, within a radius of 1 kilometer of Rancho Grande.]

A small collection of ectoparasites made by Dr. William Beebe at Rancho Grande, 3,600 ft., Venezuela, in addition to providing several noteworthy host and locality records, includes a new species of flea and a new mite. Of the five species of fleas here reported upon, three belong to *Rhopalopsyllus*, a genus of particular medical interest because its members have been implicated on epidemiological grounds in the transmission of plague in Venezuela and other countries of South America (Hecht,

1942 and 1943; Fuller, 1942). All this material has been generously presented by its collector to the School of Tropical Medicine and is in the Entomological Collections of the Department of Medical Zoology.

## FAMILY DOLICHOPSYLLIDAE.

*Rhopalopsyllus steganus* Jordan and Rothschild.

*Rhopalopsyllus steganus* Jordan and Rothschild, 1923, *Ectoparasites*, 1:338, Fig. 356.

*Host.* Squirrel (Cat. No. 30590), *Sciurus griseogena meridensis*, collected March 25, 1946.

*Remarks.* This species was originally described from one male taken at San Esteban, Venezuela, of *Sturnira lilium*. The present collection consists of one male and two females. (Cat. No. 46286).

*Rhopalopsyllus peronis* Jordan and Rothschild.

*Rhopalopsyllus peronis* Jordan and Rothschild, 1923, *Ectoparasites*, 1:340-342, Figs. 353, 359.

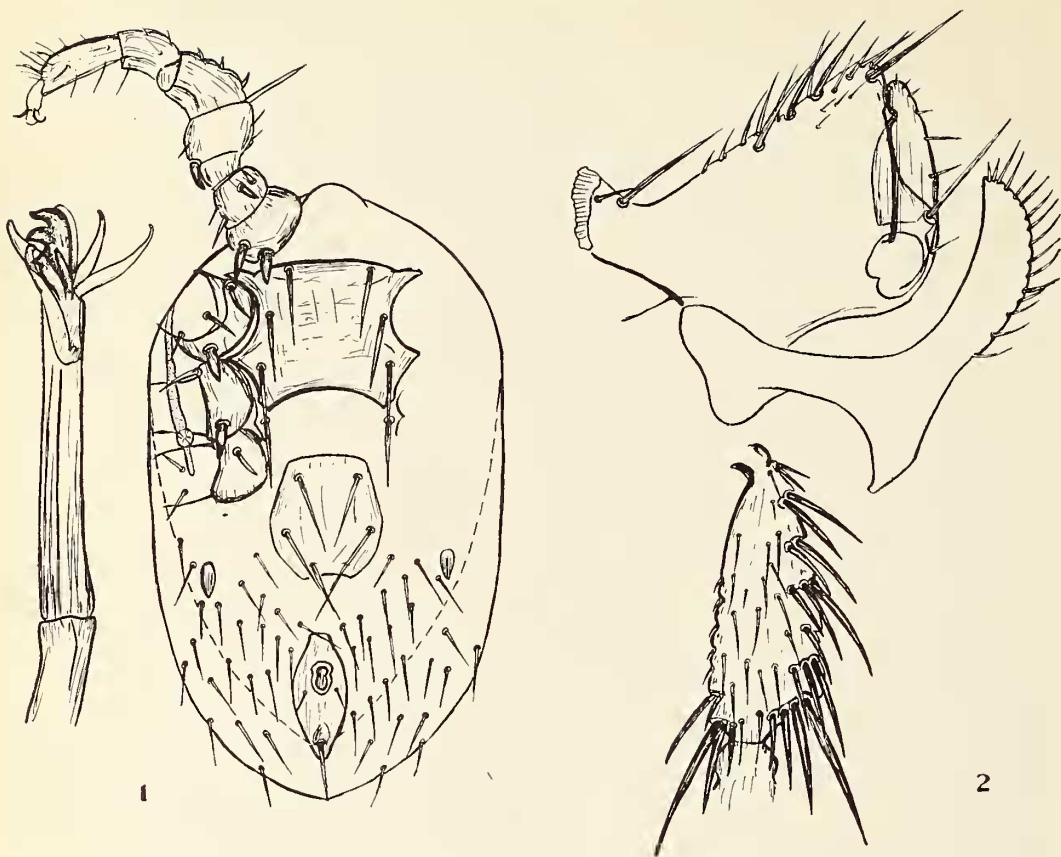
*Host.* Spiny mouse (Cat. No. 30944), *Heteromys anomalus*, collected August 14, 1946.

*Remarks.* The original description states, "Probably Venezuela or Columbia off *Heteromys melanoleucus*." The present collection consisting of four males and seven females (Cat. No. 46943) proves the occurrence of the species in Venezuela.

*Rhopalopsyllus beebei*, new species.

*Male.* Frontal tubercle prominent. Pre-antennal region of head with two rows of bristles, the upper row consisting of four bristles of which the one nearest the antennal groove is the largest; the lower row consists of three bristles of which the middle is the smallest. Two bristles present posterior to the eye, one on a level with its middle, the other considerably below it. Postantennal region with three rows of bristles. Labial palpus extending beyond the basal half of fore coxa. Hind tibia

<sup>1</sup> Contribution No. 778, Department of Tropical Research, New York Zoological Society.



TEXT-FIG. 1. *Neolaelaps heteromyx*, new species. Female, ventral view, and chelicera.

TEXT-FIG. 2. *Rhopalopsyllus beebei*, new species. Male, modified segments and hind tibia.

(Text-fig. 2) differing from other species in that apically it bears a group of four stout bristles, and subapically a group of three such bristles. Longest bristle of hindtarsal segment I not reaching apex of segment II; longest bristle of hindtarsal segment II not reaching apex of segment III. Modified segments as in Text-fig. 2. Clasper triangular, bearing one large posteriorly directed bristle subapically, its tubercle not very near the apex; acetabular bristle well above the acetabulum. Movable finger wider basally than distally, its posterior margin with several faint bristles. Sternite IX without bristles basally, its posterior margin with 16 faint bristles distally, most of which are of about the same size. Below the stigma of tergite VIII are two bristles, a large one and a small one. Total length, about 2.5 mm.

*Type material.* Male holotype (Cat. No. 46731) from *Didelphis marsupialis* (Cat. No.

30830) at Rancho Grande, Venezuela, 3,600 ft. collected August 3, 1946, by Dr. William Beebe.

*Remarks.* This species seems to be near *R. roberti* (Rothschild) from which it is distinguished by details of the chaetotaxy of the legs and sternite IX.

#### FAMILY HYSTRICHOPSYLLIDAE.

##### *Adoratopsylla bisetosa* Ewing.

*Adoratopsylla bisetosa* Ewing, 1925, *Jour. Parasitol.*, 12:44-45.

*Host.* Opossum (Lot No. 30829), *Monodelphis brevicaudata*, collected July 30, 1946 (Cat. No. 46724 including three females of the above species); same host (Cat. No. 30955) collected August 16, 1946 (Cat. No. 46969 consisting of one female specimen of this flea).

*Remarks.* The original description was based upon males and females from the same host taken at Río Branco, Santa

Maria, Brazil. As far as can be ascertained, the species has not heretofore been reported from Venezuela.

*Tritopsylla intermedia* (Wagner).

*Typhlopsylla intermedia* Wagner, 1902, *Soc. Ent. Rossica Horae*, 35:8, Pl. I, Fig. 9.

*Host.* Mouse opossum (Cat. No. 30564), *Marmosa demararae meridae*, collected March 8, 1946 (Cat. No. 46240 consisting of one male and one female specimen of the above flea); opossum (Cat. No. 30830), *Didelphis marsupialis*, collected August 3, 1946 (Cat. No. 46731 including one female specimen of this flea).

*Remarks.* This species is generally distributed in Central America and northern South America. Ewing and Fox (1943) erroneously synonymized *Tritopsylla* with *Doratopsylla*, but it is a perfectly good genus near *Leptopsylla*.

FAMILY LAELAPTIDAE.

*Neolaelaps heteromys*, new species.

*Female.* Body oval in shape, longer than broad, well provided with prominent setae. Total length, not including capitulum, 1.2 mm.; width, .72 mm. Chelicera (Text-fig. 1) prominent with three large teeth, the middle the largest; basally with radiating transparent processes. Sternal plate (Text-fig. 1) lightly sculptured, broader than long. First pair of sternal setae on the anterior border of the sternal plate, second pair more or less level with the middle of coxa II; third pair on a level with the anterior border of coxa III; sternal pores placed as usual. Metasternal plates faint but their setae conspicuous. Genito-ventral plate of the shape shown in the figure, with three large setae. Metapodal plates moderate in size. Anal plate more or less lemon shaped with three setae, of which the most posterior is the largest and has its base in a defined sclerotized area. Anal pore situated closer to the anterior margin than to the posterior. Flanking the anal plate on each side are several irregular rows of large

setae. Peritreme not broad or prominent and not reaching beyond coxa I. Stigmal pore level with the posterior border of coxa III, distant from the lateral border of the body. Legs well provided with normal setae. Leg I bears on its coxa two large spine-like setae, on its trochanter one smaller spine-like seta, on its femur a single posteriorly directed spine-like seta. Coxae II and III each with a spine-like seta on the posterior border. Dorsal plate shield shaped, not covering the whole dorsal surface, provided with many long, stout and for the most part straight setae.

*Type material.* Female holotype and female paratype (Cat. No. 46943) selected from a series of eight females from *Heteromys anomalus* (Cat. No. 30944) collected at Rancho Grande, Venezuela, 3,600 ft., August 14, 1946, by Dr. William Beebe.

*Remarks.* This new species is similar to *N. magnistigmatus* (Vitzth) from which it differs in the shapes of the ventral plates as in other respects. The presence of three setae on the genito-ventral plate relates this new species to others in *Neolaelaps*, but the differences are so great that the former species will probably be regarded as of generic rank some day.

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